CLAIMS

What is claimed is:

1. An energy recovery drive system comprising:
at least one power storage device;
a motor driving a driven shaft;
an at least one energy recovery device coupled to said driven shaft such that said motor continually turns said driven shaft and operates said energy recovery device; and
a selectively engageable drive mechanism driven by said driven shaft.

2. The energy recovery drive system of claim 1, wherein the driven shaft further comprises a weighted drive member at a distal end of said driven shaft.

3. The energy recovery drive system of claim 2, wherein said at least one energy recovery device engages the driven shaft along the weighted drive member.

4. A vehicle with an energy recovery drive system comprising:
a vehicle frame;
a drive support assembly coupled to and being movable relative to said frame;
an at least one electric motor coupled to said drive support assembly;
at least one power storage device coupled to said frame and coupled to said motor;
a driven shaft driven by said motor;
an at least one energy recovery device coupled to said driven shaft and turning at all times said driven shaft is turning; and
a drive unit selectively driven by said at least one motor and driving an at least one set of wheels.

5. The vehicle of claim 4, further comprising a weighted driven wheel at a distal end of said driven shaft, wherein said drive unit is a traction wheel coupled to said driven shaft through intermittent engagement with said weighted driven wheel such that said at least one set of wheels is selectively engageable.

6. The vehicle of claim 4, wherein said drive unit is an infinitely variable transmission with at least one moving part coupled to and driving said at least one energy recovery device and simultaneously coupled to and driving said at least one set of wheels.

7. The vehicle of claim 4, wherein said weighted drive member is an aluminum disc and is coupled to said driven shaft so as to be raised and lowered with said support assembly.

8. The vehicle of claim 4, wherein said at least one energy recovery device further comprises a first energy recovery device.

9. The vehicle of claim 8, wherein said first energy recovery device returns at least 10% of the energy used by said at least one motor.

10. The vehicle of claim 8, wherein said first energy recovery device returns at least 30% of the energy used by said at least one motor.

11. The vehicle of claim 8, wherein said first energy recovery device returns at least 60% of the energy used by said at least one motor.

12. The vehicle of claim 8, wherein said at least one energy recovery device further comprises a second energy recovery device

13. The vehicle of claim 12, wherein said second energy recovery device is coupled to said at least one set of driven wheels.

14. The vehicle of claim 12, wherein said second energy recovery device is coupled to said motor.

15. The vehicle of claim 14, wherein said second energy recovery device is coupled to said driven shaft.

16. The vehicle of claim 4, wherein the distance at which the drive member contacts the traction member along a first side from a center point of the drive member is proportional to the speed of the vehicle.

17. The vehicle of claim 4, distance at which the drive member contacts the traction member along a second side from a center point of the drive member is proportional to the speed in reverse of the vehicle.

18. The vehicle of claim 4, wherein said at least one set of wheels further comprises a first and second set of wheels, said first and second set of wheels being driven simultaneously by said at least one motor.

19. The vehicle of claim 4, wherein said at least one energy recovery device is mounted to said vehicle frame to return energy from motion of said vehicle.

20. A drive system comprising:
at least one power storage device;
at least one motor intermittently energized and de-energized through coupling to the at least one power storage device;
at least one weighted drive member coupled to the at least one motor;
an at least one energy recovery device returning energy to the at least one power storage device when the motor is energized;
a drive unit coupled to said at least one weighted drive member such that the motor drives the at least one weighted drive member which in turn drives the drive train wherein when the at least one weighted drive member is disengaged from the drive train, the motor remains in an energized state and at least one energy recovery device continues to return energy to the power storage device so long as the weighted drive member is driven.

21. The drive system of claim 20, wherein the at least one energy recovery device is coupled to the weighted drive member.

22. The drive system of claim 20, further comprising a clutch device intermittently engaged to couple the weighted drive member and the drive train.

23. The drive system of claim 20, further comprising a switch that controls the flow of power from the power storage device to a controller that is coupled to the motor, the controller energizing the motor in response to the condition of the switch.

24. The drive system of claim 20, wherein the mass of the weighted drive member is concentrated towards the outside of the shape of the weighted drive member.

25. The drive system of claim 20, wherein the at least one energy recovery device is intermittently coupled to an energy recovery device through an intermittent engagement device

26. The drive system of claim 20, wherein the weighted drive member is one of a conical, radial, spheroid, toroid, or elliptical shape.

27. The drive system of claim 20, wherein the drive member is constructed from metal, epoxies, ceramics, wood, or plastic.

28. The drive system of claim 20, wherein the at least one energy recovery device is directly coupled to the weighted drive member.

29. The drive system of claim 20, wherein the at least one energy recovery device is directly coupled to the motor.

30. The drive system of claim 20, wherein the at least one energy recovery device is a tractive member coupled to an energy recovery mechanism.

31. The drive system of claim 30, wherein the energy recovery mechanism is one of a generator, an alternator, permanent magnet device or a stator.

32. The drive system of claim 20, further comprising a controller, wherein said at least one energy recovery device is intermittently engaged in response to a control input from said controller.

33. The drive system of claim 32, wherein the control input is at least one of a foot pedal, a lever, a slideable switch, or a push button switch.

34. The drive system of claim 20, wherein the drive member is a weighted disk-shaped member.

35. The drive system of claim 34, wherein the weighted disk-shaped member has a substantial amount of weight concentrated towards an outer diameter of the member.

36. The drive system of claim 20, wherein the at least on energy recovery device further comprises a first energy recovery device.

37. The drive system of claim 36, wherein the weighted drive member is intermittently coupled to the first energy recovery device through an intermittent engagement device, so that when said weighted drive member is driven said first energy recovery device is engaged.

38. The drive system of claim 37, wherein the first energy recovery device is a tractive member coupled to an energy recovery mechanism.

39. The drive system of claim 38, wherein the energy recovery mechanism is a generator, alternator or stator.

40. The drive system of claim 36, further comprising a controller, wherein the intermittent engagement device is coupled to a controller.

41. The drive system of claim 40, wherein the controller selectively engages the energy recovery device with the weighted drive member in response to a change of a control input.

42. The drive system of claim 36, wherein the intermittent engagement device is one of a spring with tension arm and micro controller, a switch with a motor and a screw, or a clutch mechanism.

43. The drive system of claim 20, wherein the drive unit is one of a traction drive unit, a hydrostatic drive unit, or an infinitely variable gear ratio drive unit.

44. The drive system of claim 36, wherein said at least one energy recovery device further comprises an additional energy recovery device returning power to the at least one energy storage device while the weighted drive member is moving.

45. The drive system of claim 36, wherein said at least one energy recovery device further comprises three or more energy recovery devices.

46. The drive system of claim 36, wherein said at least one energy recovery device further comprises a drive unit energy recovery device for recovering energy from the drive unit when the drive system is moving.

47. The drive system of claim 4, wherein the at least one power storage device comprises a plurality of batteries storing electrical energy.

48. A drive system comprising:
at least one power storage device;
at least one motor intermittently energized and de-energized through coupling to the at least one power storage device;
at least one weighted drive member coupled to the motor;
an at least one energy recovery device returning energy to the at least one power storage device when the motor is de-energized and the weighted drive member is moving;
a drive unit coupled to said at least one weighted drive member such that the motor drives the at least one weighted drive member which in turn drives the drive unit and when the drive unit is disengaged from the drive unit, the motor remains in an energized state and is disengaged from contact with the weighted drive member.

49. The drive system of claim 48, wherein the at least one energy recovery device is intermittently applied to the weighted drive member upon de-energization of the motor.

50. The drive system of claim 48, wherein the drive system is used in a vehicle and the drive system continues to return energy to the at least one power storage device even after the vehicle is stopped.

51. The drive system of claim 48, wherein the at least one energy recovery device is in simultaneously engaged with said motor and continues to operate after the motor is de-energized, recovering the kinetic energy remaining in the system.

52. The drive system of claim 48, wherein the energy recovery device operates after the drive unit has stopped being driven.

53. The drive system of claim 48, wherein the at least one energy recovery device is coupled to the weighted drive member.

54. The drive system of claim 48, further comprising a control input that controls the flow of power from the at least one power storage device to a controller that is

coupled to the motor, the controller energizing the motor in response to the control input.

55. The drive system of claim 48, wherein the mass of the weighted drive member is concentrated towards a periphery of the shape of the weighted drive member.

56. The drive system of claim 48, wherein the at least one energy recovery device is intermittently coupled to the weighted drive member through an intermittent engagement device.

57. The drive system of claim 48, wherein the at least one energy recovery device is directly coupled to the weighted drive member.

58. The drive system of claim 48, wherein the at least one energy recovery device is directly coupled to the motor.

59. The drive system of claim 48, wherein the at least one energy recovery device is a tractive member coupled to an energy recovery mechanism.

60. The drive system of claim 59, wherein the energy recovery mechanism is a generator, an alternator, a permanent magnet device or a stator.

61. The drive system of claim 54, wherein the controller intermittently engages said at least one energy recovery device in response to a control input.

62. The drive system of claim 61 wherein the control input is one of a foot pedal, a lever, a slideable switch, or a push button switches.

63. The drive system of claim 48, wherein the drive member is a weighted disk-shaped member.

64. The drive system of claim 63, wherein the weighted disk-shaped member has a substantial amount mass concentrated along an outer perimeter of the member.

65. The drive system of claim 48, wherein the at least on energy recovery device further comprises a first energy recovery device.

66. The drive system of claim 65, wherein, the weighted drive member is intermittently coupled to the first energy recovery device through an intermittent engagement device.

67. The drive system of claim 66, wherein the first energy recovery device is a tractive member coupled to an energy recovery mechanism.

68. The drive system of claim 67, wherein the energy recovery mechanism is one of a generator, an alternator, a permanent magnet device or a stator.

69. The drive system of claim 66, further comprising a controller, wherein the intermittent engagement device is coupled to the controller.

70. The drive system of claim 69, wherein the controller selectively engages the at least one energy recovery device in response to a control input.

71. The drive system of claim 70, wherein the intermittent engagement device is one of a spring with tension arm and micro controller, a switch with a motor and a screw or a clutch mechanism.

72. The drive system of claim 48, wherein the drive unit is one of a traction drive train, a hydrostatic drive train, or an infinitely variable gear ratio transmission.

73. The drive system of claim 65, wherein the at least one energy recovery device further comprises a second energy recovery device.

74. The drive system of claim 48, wherein the at least one energy recovery device further comprises three or more energy recovery devices.

75. The drive system of 65, wherein the at least one energy recovery device further comprises a third energy recovery device for recovering energy from the drive unit when the drive unit is moving.

76. The drive system of claim 65, wherein the at least one energy recovery device further comprises a third energy recovery device for recovering energy from an at least one set of wheels driven by the drive unit.

77. A drive system comprising:
a drive support carriage providing support for an at least one power source;
at least one weighted drive member that is intermittently engaged with a transmission unit;
at least one energy recovery device coupled to the motor and driven simultaneously with the weighted drive member.

78. The drive system of claim 77, further comprising an at least one power storage device, the power source coupled to the at least one power storage device and a switch coupled to the at least one power storage device and to a controller, the switch energizing or de-energizing the at least one power source through the controller.

79. The drive system of claim 77, wherein the at least one power storage device is a battery bank.

80. The drive system of claim 77, wherein the power source is one of an electric, a hydraulic, or internal combustion motor.

81. The drive system of claim 80, wherein the power source is a DC electric motor.

82. The drive system of claim 77, further comprising a driven shaft extending from the power source having a gear box and a belt pulley coupled to the driven shaft and the at least one energy recovery device.

83. The drive system of claim 77, wherein the energy recovery device is an alternator.

84. The drive system of claim 77, wherein the at least one energy recovery device is coupled to the at least one power storage device to return energy to the at least one power storage device.

85. The drive system of claim 77, wherein the at least one energy recovery device is coupled to an at least one electrical accessory.

86. The drive system of claim 85, wherein the at least one electrical accessory is at least one of a GPS system, a sound system, and an air conditioning system.

87. The drive system of claim 77, wherein the motor provides the at least one drive member with momentum and the at least one energy recovery device is driven by the momentum of the weighted drive member.

88. The drive system of claim 77, wherein the weighted drive member is a disc shaped member.

89. The drive system of claim 77, wherein the drive member is one of a conical, radial, spheroid, toroid, or elliptical shaped weighted drive member.

90. The drive system of claim 88, wherein disc shaped weighted member has a concentration of mass on an outer circumference of the member.

91. The drive system of claim 77, further comprising a drive assembly, the drive assembly comprising the motor, a gearbox coupled to the motor, and a motor support plate.

92. The drive system of claim 91, wherein the at least one energy recovery device comprises a first energy recovery device coupled via a pulley to the gearbox.

93. The drive system of claim 92, wherein the energy recovery device further comprises at least one of additional belt pulleys, gearing, electrical circuitry, electrical components or sensors.

94. The drive system of claim 91, further comprising sensors and electrical devices and a controller, wherein the sensors and electrical devices communicate the condition of the at least one of the at least one power storage device, the drive assembly, or the transmission unit to the controller.

95. The drive system of claim 77, wherein the weighted drive member is moved vertically to engage a traction member.

96. The drive system of claim 95, wherein the traction member is coupled to the transmission unit.

97. The drive system of claim 77, wherein the weighted drive member and a traction member are moved relative to one another to engage and disengage the transmission unit.

98. The drive system of claim 97, wherein the weighted drive member and the traction member are moved horizontally relative to one another to adjust the speed at which the transmission unit is driven.

99. The drive system of claim 77, further comprising a vacuum housing encasing the weighted drive member, the at least one energy recovery device, and the traction member.

100. The drive system of claim 77, further comprising a drive support carriage comprising a frame, a set of rails, and at least one set of bearings.

101. The drive system of claim 100, further comprising a drive assembly comprising the weighted drive member, the motor, a motor support plate, and the at least one energy recovery device, the drive assembly being coupled to the motor support carriage.

102. The drive system of claim 101, wherein the drive assembly transitions freely in both vertical and horizontal directions relative to the transmission unit.

103. The drive system of claim 102, further comprising at least one biasing element raising the drive assembly and the support carriage and keeping the transmission unit disengaged from the weighted drive member.

104. The drive system of claim 103, further comprising a vertical adjustment mechanism which lowers the drive assembly and the motor support carriage against the at least one biasing element.

105. The drive system of claim 102, further comprising a horizontal adjustment mechanism for movement of the drive assembly in the horizontal direction relative to the transmission unit.

106. The drive system of claim 105, wherein the vertical adjustment mechanism is at least one of a motor and a camshaft, a spring member, a screw gear, a worm gear, a ratcheting gear, or a hydraulic piston.

107. The drive system of claim 106, further comprising a controller for controlling a horizontal transitioning of the transmission unit relative to the drive assembly.

108. The drive system of claim 106, further comprising a controller for controlling the horizontal transitioning of the drive assembly relative to the transmission unit.

109. The drive system of claim 106, wherein the drive assembly moves on the support rails supported by the support members of the motor support carriage.

110. The drive system of claim 102, wherein the position of the weighted drive member relative to the transmission unit adjusts the speed at which the drive system is driven.

111. The drive system of claim 110, wherein a controller is connected to a control input.

112. The drive system of claim 110, wherein the controller is one of an electric control system, a hydraulic control system, a computer control system or a combination therein.

113. The drive system of claim 111, wherein the controller in response to the control input activates a transitioning motor which in turn moves the motor assembly in relation to the transmission unit.

114. The drive system of claim 103, wherein the support members are a set of over-under rollers traveling along rails with a screw drive.

115. The drive system of claim 103, wherein the support members are a set of linear bearings and a worm gear connected to a motor.

116. The drive system of claim 111, wherein the controller can be utilized to control the position of the drive assembly and the motor support carriage in both horizontal and vertical directions.

117. The drive system of claim 77, further comprising additional energy return devices are coupled to the motor.

118. The drive system of claim 77, further comprising additional energy return devices are coupled to the motor shaft.

119. The drive system of claim 77, further comprising additional energy return devices coupled directly to the weighted drive member.

120. The drive system of claim 77, further comprising additional energy return devices coupled indirectly to the weighted drive member.

121. The drive system of claim 77, wherein the at least one energy recovery device is a first energy recovery device and a second energy recovery device.

122. The drive system of claim 121, wherein the first and second energy recovery devices simultaneously contact the weighted drive member with a tractive wheel that turns a second energy device.

123. The drive system of claim 122, wherein the second energy recovery device intermittently contacts the weighted drive wheel

124. The drive system of claim 77, wherein the at least one energy recovery device is part of the motor.

125. A method of driving a transmission unit comprising the steps of:
providing energy to a power source from an at least one power storage device,

energizing a weighted drive member with said motor;
energizing an energy recovery device with said weighted drive member;
engaging a control input to activate a controller; and
driving the transmission with said weighted drive member in response to the activation of the controller, wherein the weighted drive member returns energy to the at least one power storage device while the weighted drive member is energized.

126. The method of driving a transmission of claim 125, wherein the transmission is part of a vehicle, for example a golf cart, an electric community vehicle, a boat, an aircraft, a helicopter, or a wheelchair.

127. The method of driving a transmission of claim 125, further comprising the step of engaging an additional control input to cease energizing the weighted drive member.

128. The method of driving a transmission of claim 125, further comprising the step of releasing said control input and sensing the release of said control input with said controller to cease the energizing the weighted drive member.

129. The method of driving a transmission of claim 125, further comprising the step of returning the weighted drive wheel to a disengaged state and allowing it to continue to be energized by the motor without driving the transmission.

130. The method of driving a transmission of claim 125, further comprising the step of simultaneously returning energy from the weighted drive wheel while in the disengaged state.

131. A drive system comprising:
at least one power storage device;
a motor support carriage with a motor assembly, the motor assembly including at least one motor coupled to the at least one power storage device, wherein the motor is

initially de-energized and the motor becomes energized when coupled to the power storage device;
a weighted drive member driven by the motor and intermittently engaging a transmission unit; and
at least one energy return device coupled to the at least one power storage device and intermittently engaged when the motor is de-energized.

132. The drive system of 131, further comprising a switch coupled between the at least one power storage device and the motor, wherein the switch de-energizes and energizes the motor.

133. The drive system of 132, wherein the switch is coupled to a control input.

134. The drive system of 133, wherein the control input is coupled to a controller that is coupled to the motor and the controller activates the motor in response to input from the control input.

135. The drive system of 134, wherein in response to engaging the control input the motor is energized by the controller.

136. The drive system of 131, further comprising a clutch device between the weighted drive member and the transmission unit.

137. The drive system of 138, wherein the clutch device further comprises a clutch member that rests between the weighted drive member and a torque plate.

138. The drive system of 137, wherein the torque plate is intermittently engaged with the transmission unit.

139. The drive system of 138, further comprising a controller and a control input, wherein signals from the control input activates the controller, which engages and disengages the clutch device.

140. The drive system of 138, further comprising a controller and a control input and an additional control input, wherein signals from the control input activate the clutch device and signals from the additional control input disengages the clutch device.

141. The drive system of 136, wherein the clutch device is one of a mechanical, a hydrostatic, or an electrical.

142 The drive system of 135, wherein the controller provides a delay to allow the motor to spin up the weighted drive member to a specified rotational speed before engaging the traction member.

143. The drive system of 131, wherein the motor is one of an electric, a hydraulic, or an internal combustion motor.

144. The drive system of 143, wherein the motor is a DC electric motor.

145. The drive system of 143, wherein the motor is an internal combustion engine.

146. The drive system of 131, further comprising a motor support carriage comprising a frame, at least one set of support rails and at least one set of support members.

147. The drive system of claim 146, further comprising a drive assembly comprising the weighted drive member, the motor, a motor support plate, and the at least one energy recovery device, the drive assembly being coupled to the motor support carriage.

148. The drive system of 147, wherein the drive assembly is supported on the least one set of support rails with the at least one set of support members.

149. The drive system of 148, wherein the drive assembly transitions freely in the horizontal direction relative to the transmission unit to control the speed of the vehicle.

150. The drive system of 149, further comprising a transitioning motor coupled to the drive assembly to transition the assembly.

151. The drive system of 150, wherein the horizontal motion and placement of the drive assembly relative to the transmission unit determines the speed of the drive system and is controlled by a controller coupled to a control input.

152. The drive system of 151, wherein the at least one energy recovery device comprises a first energy recovery device mounted on a motor support plate within the motor assembly.

153. The drive system of 152, wherein the first energy recovery device remains in contact with the weighted drive wheel at a set distance from a center-point of the weighted drive member.

154. The drive system of 153, further comprising a second energy recovery device.

155. The drive system of 154, wherein the second energy recovery device is driven directly from the motor.

156. The drive system of 154, wherein the second energy recovery device is driven by a gearbox that is driven directly from the motor.

157. The drive system of 155, wherein the second energy recovery device is engaged also while the motor is energized.

158. The drive system of 154, wherein the first energy recovery device is mounted on the motor support carriage.

160. The drive system of 158, wherein first energy recovery device includes a tractive wheel that moves over the top of the weighted drive wheel as the wheel returns to its starting position.

161. The drive system of 154, wherein both energy recovery devices can be operated simultaneously with the motor.

162. The drive system of claim 154, wherein said first energy recovery device is attached to the support carriage at a fixed distance relative to the center point of the weighted drive member.

163. The drive system of 154, wherein the first energy recovery device is free to move horizontally relative to the weighted drive member.

164. The drive system of 162, wherein the first energy recovery device engages a shaft extending from the motor.

165. A method of driving a transmission:
providing energy to a power source from at least one power storage device;
engaging a control input to activate a controller;
energizing a weighted drive member with said motor;
engaging and driving the transmission with said weighted drive member in response to the activation of the controller;
disengaging the driving of the transmission in response to a signal from the controller;
energizing an energy recovery device with said weighted drive member; and
returning energy to the at least one power storage device while the weighted drive member is disengaged from the transmission and slowed.

166. The method of claim 165, wherein the steps of driving and disengaging the driving of the transmission further comprise activating the controller and activating or deactivating a clutch mechanism.

167. The method of claim 166, wherein the step of engaging a control input to activate a controller further comprises activation or deactivation of a control input.

168. The method of claim 167, wherein the step of engaging a control input to activate a controller further comprises activation of a control input to activate the clutch and the activation of an additional control input to disengage the clutch.

169. The method of claim 165, wherein the step of engaging the transmission further comprising the step of moving a drive assembly horizontally in response to signals from the controller and then engaging a clutch mechanism in response to signals from the controller to drive the transmission.

170. The system of claim 141, wherein the clutch mechanism further comprises a torque plate having a depression section, wherein the traction member is disengaged when coupled within the depression section and engaged when coupled outside of the depression section.

171. A kit for a drive system, the kit comprising:
an at least one power storage device;
at least one motor intermittently energized and de-energized through a control device;
at least one weighted drive member coupled to the motor;
an at least one energy recovery device returning energy to the at least one power storage device when the weighted drive member is moving;
a drive unit intermittently coupled to said at least one weighted drive member such that the motor drives the at least one weighted drive member which in turn drives the drive unit when the drive unit is engaged and when the drive unit is disengaged from the

weighted weighted drive member the drive unit ceases to drive the vehicle but allows the weighted drive member to continue in an energized state and drive the energy recovery device.

172. The kit of claim 171, further comprising a clutch device coupled to the weighted drive member assiting the weighted drive member to continue in an energized state after the drive unit is disengaged and de-energized.

173. The kit of claim 171, further comprising a second energy recovery device coupled to the drive unit and drawing energy from the drive unit when the drive unit disengages from the weighted drive wheel and returning the energy to the second at least one energy storage device.

174. The kit of claim 171, further comprising a control input that is coupled to a controller that controls the flow of power from the at least one power storage device to the motor, the controller energizing the motor in response to the control input.

175. The kit of claim 171, wherein the at least one energy recovery device is intermittently coupled to the weighted drive member through an intermittent engagement device mounting a traction wheel.

176. The kit of claim 174, wherein the controller is a programmable logic unit.

177. The kit of claim 176, wherein the controller monitors at least one sensor input.

178. The kit of claim 177, wherein the controller monitors at least one of the following sensor inputs, the control input position, the traction wheel position, the motor power condition, the motor RPM, and other suitable inputs.

179. The kit of claim 176, wherein the controller sends at least one output signal.

180. The kit of claim 179, wherein the controller sends at least one of the following output signals, a repositioning location signal for the traction wheel, an alternator field current modulation signal, a motor operation signal, an engagement/disengagement of the traction wheel signal, and other suitable output signals.

181. The kit of claim171, wherein the at least one energy recovery device is directly coupled to the weighted drive member.

182. The kit of claim171, wherein the at least one energy recovery device is directly coupled to the motor.

183. The kit of claim171, wherein the at least one energy recovery device is a tractive member coupled to an energy recovery mechanism.

184. The kit of claim183, wherein the energy recovery mechanism is a generator, an alternator, a permanent magnet device or a stator.

185. The kit of claim171, wherein the controller intermittently engages said at least one energy recovery device in response to a control input.

186. The kit of claim185, wherein the control input is one of a foot pedal, a lever, a slideable switch, or a push button switches.

187. The kit of claim171, wherein the weighted member is a weighted disk-shaped member.

188. The kit of claim187, wherein the weighted disk-shaped member has a substantial amount mass concentrated along an outer perimeter of the member.

189. The kit of claim171, wherein the at least on energy recovery device further comprises a first energy recovery device.

190. The kit of claim189, wherein the at least one energy recovery device further comprises a second energy recovery device.

191. The kit of claim70, further comprising an intermittent engagement device is one of a spring with tension arm and micro controller, a switch with a motor and a screw or a clutch mechanism.

192. The kit of claim 171, wherein the at least one energy recovery device has a field strength and the field strength is adjusted according to a condition of movement of the drive system kit.

193. The kit of claim 192, wherein, during an acceleration condition of the drive system kit the at least one energy recovery device is not powered.

194. The kit of claim 192, wherein, during a coasting condition of the drive system kit, the at least one energy recovery device is engaged and adjusted to maximize energy recovery.

195. A vehicle comprising:
an at least one set of wheels;
an at least one drive system for each of the corresponding at least one set of wheels, the drive system comprising;
a first at least one power storage device;
an at least one motor intermittently energized and de-energized through a control device;
an at least one weighted drive member coupled to the motor;
an at least one energy recovery device returning energy to the at least one power storage device when the weighted drive member is moving;
a drive unit intermittently coupled to said at least one weighted drive member such that the motor drives the at least one weighted drive member which in turn

drives the drive unit when the drive unit is engaged and, when the drive unit is disengaged from the weighted drive unit, ceases to drive the vehicle but allows the weighted drive member to continue in an energized state and drive the energy recovery device.